Charles Darwin University

Final Examination

Family Name						
Given Name/s						
Student Number						
Teaching Period	Semester 1, 2018					

MLS301 – Transfusion Medicine	DURATION	
	Reading Time:	10 minutes
	Writing Time:	120 minutes

INSTRUCTIONS TO CANDIDATES

The examination has 2 sections.
Section A: 30 marks - Marks for each question are of equal value
Suggested Time: 60 mins
Multiple Choice Questions: Answer ALL (60) questions.

Section B: 50 marks
Suggested Time: 60 mins
Short Essay Questions: Answer ALL (15) questions

Total marks for this examination: **

EXAM CONDITIONS

<u>You may begin writing from the commencement of the examination session.</u> The reading time indicated above is provided as a guide only.

This is a CLOSED BOOK examination

Any non-programmable calculator is permitted

No handwritten notes are permitted

No dictionaries are permitted

ADDITIONAL AUTHORISED MATERIALS	EXAMINATION MATERIALS TO BE SUPPLIED
None	1 x 16 Page Book 1 x 5-Multiple Choice Answer Sheet 1 x Scrap Paper

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Section A
Multiple Choice Questions
Section B
Short Answer Questions
Total No of Marks for this Section: 50

This section should be answered in the Answer Booklet provided.

Marks for each question are indicated. Suggested time allocation for Section B: 60 mins

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Question 1

Describe the rationale behind patient blood management (PBM). Include the three (3) pillar model in your answer.

(Marks: 6)

Question 2

List five (5) technical and five (5) clinical causes of ABO forward and reverse typing discrepancies.

(Marks: 5)

Question 3

Briefly describe the process of manufacturing basic blood components from whole blood.
You may use a diagram to support your answer.

(Marks: 5)

Question 4

List the infectious agents blood donations are screened for before distribution, to ensure safety of blood components.

(Marks: 5)

Question 5

List three (3) clinical symptoms of an Acute Haemolytic Transfusion Reaction.

(Marks: 3)

Question 6

List three (3) immune-mediated adverse complications of transfusion.

(Marks: 3)

Question 7

List two (2) non-immune mediated adverse complication of transfusion.

(Marks: 1)

Question 8

Define the term “massive transfusion”.

(Marks: 2)

Question 9

What condition does irradiation red cells try to prevent?

(Marks: 1)

Question 10

Briefly describe the two (2) types of platelets available from ARCBS

(Marks: 1)

Question 11

List two (2) clinical indications for both cryoprecipitate and frozen plasma, where treatment may be indicated.

(Marks: 2)

Question 12

A 25-year-old female has been in a car accident and the doctors are suspecting that she has a ruptured spleen. A sample and request are sent to the laboratory for a 'group and hold' before she goes into theatre.

(a) Before collecting a group and hold specimen what is the most important thing that the collector must do?

(Marks: 1)

The following AB) and Rh(D) results were obtained:

Anti-A	Anti-B	Anti-D	A1 cells	B cells
12	0	0	0	12

(b) What is the ABO and Rh(D) interpretation?

(Marks: 1)

(c) If a red cell transfusion was required what donor blood group would you select?

(Marks: 1)

(d) Due to her age, what precautions would your take when selecting red cells for crossmatching? Why?

(Marks: 1)

(e) If she started bleeding significantly in theatre and donor blood of her type was in very short supply, could you crossmatch donor red cells of another type? If yes, what group?

(Marks: 1)

(f) What ABO phenotypes would be compatible if the patient required a transfusion of fresh frozen plasma?

(Marks: 1)

Question 13

Patient Sam Morris has been in a minor bus accident and she is complaining of some abdominal trauma. Sam is 30 weeks pregnant. This is her first pregnancy. Testing showed the she is group B Rh(D) negative with a weakly positive antibody screen. Anti-D is detected on the antibody identification panel.

(a) List two (2) possible causes for the anti-D detected.

(Marks: 2)

Ten week later Sam delivers a very healthy baby girl; Chole.

(b) Chole is blood group O (Rh) negative. Does Sam need to receive any injections for Rh(D) immunoglobins? Why?

(Marks: 2)

(c) Does Sam need to have a Kleihauer-Betke test performed post-partum? Why?

(Marks: 1)

(d) Sam's partner thinks that his blood group is AB (Rh) positive. If this is the case, is he the father of baby Chole?

(Marks: 1)

Question 14

What are the characteristics of the primary immune response?

(Marks: 2)

Question 15

Define the difference between Autoantibody and Alloantibody.

(Marks: 2)